

CLAIMS

1. Multistage centrifugal compressor having a tank which can be opened horizontally, comprising a lower semi-tank (11) and an upper semi-tank (12), a shaft 13 having a series of rotors 14 and a series of stages (10) each of which comprising, in turn, a series of lower semi-diaphragms 16 and a series of upper semi-diaphragms 18, a lower half-ring (21) and an upper half-ring (22) which can be coupled to form a bearing ring, said lower half-ring (21) being fixed internally to the lower semi-tank (11), and said corresponding upper half-ring (22) being fixed to the upper semi-tank (12), characterized in that in each stage (10) of the multistage centrifugal compressor, the lower semi-diaphragms (16) are tightly constrained to one another by blocking means, to form a first pile (41) of lower semi-diaphragms (16) and, the corresponding upper semi-diaphragms (18) are tightly constrained to one another by blocking means, to form a second pile (42) of lower semi-diaphragms (16), and in that said first pile (41) can be constrained to said lower half-ring (21) and said second pile (42) can be constrained to said upper half-ring (22).
2. The multistage centrifugal compressor having a tank which can be opened horizontally according to claim 1, characterized in that said blocking means include axial

screws (17) and axial screws (19) to constrain the lower semi-diaphragms (16) and the upper semi-diaphragms (18), respectively.

3. A procedure for the assembly of a multistage centrifugal compressor having a tank which can be opened horizontally according to any of the previous claims, characterized in that it comprises the following stages:

(a) forming a series of first piles of lower semi-diaphragms (16), and a series of second piles (42) of upper semi-diaphragms (18), (b) assembling the series of first piles (41) of lower semi-diaphragms (16) in the lower tank (11), by constraining a lower semi-diaphragm (16) of each first pile (41) to the lower half-ring (21) of the corresponding stage (10), (c) assembling the shaft (13) equipped with the series of rotors (14) on the series of first piles (41) of lower semi-diaphragms (16), (d) coupling and constraining the series of second piles (42) with the series of first piles (41), (e) assembling the upper semi-tank (12) on the lower semi-tank (11), 20 constraining an upper semi-diaphragm (18) of each second pile (42) to the upper half-ring (22) of the corresponding stage (10) and (f) closing the multistage centrifugal compressor.

4. A procedure for the assembly of a multistage centrifugal compressor having a tank which can be opened

horizontally according to claim 3, characterized in that in stage (a) the first pile (41) of lower semi-diaphragms (16) is obtained by constraining the lower semi-diaphragms (16) to one another, whereas the second pile 5 (42) of upper semi-diaphragms (18) is obtained by constraining the upper semi-diaphragms (18) to one another.

5. A procedure for the assembly of a multistage centrifugal compressor having a tank which can be opened horizontally according to claim 4, characterized in that 10 stage (a) is effected by constraining the lower semi-diaphragms (16) to one another by means of axial screws (17) and by constraining the upper semi-diaphragms (18) to one another by means of axial screws (19).

6. A procedure for the assembly of a multistage centrifugal compressor having a tank which can be opened 15 horizontally according to claim 3, characterized in that stage (d) is effected by constraining the first pile (41) to the second pile (42) by means of screws (15).